

Memo

Date: 10/15/03
To: Gary Baumgarten
From: Katherine Sciera
RE: Preliminary Status of Ecological Risk Assessment for Patrick Bayou

I read the "Assessment of Sediment Toxicity and Quality in Patrick Bayou, Segment 1006, Harris County, Texas" 2002 document to determine the status of an ecological risk assessment for the superfund site Patrick Bayou. From examining their graphs of the contaminant data, I noted the following comments:

- There are definite sediment related ecological risk issues because multiple organic and inorganic compounds exceed screening level
- The sediment data in the report appear to be useable for the ecological risk assessment, but additional data would be needed.
- Additional data is needed to assess food-chain pathways for the bioaccumulative compounds that are present in Patrick Bayou. This would include fish and waterfowl pathways.

I attached a spreadsheet, which outlines the contaminants that were discussed in the sediment toxicity report and if it appeared (based on the bar graphs, not the raw numbers) that they would exceed Region 6 screening numbers used for a screening level ecological risk assessment. Also, it identifies if the compound would be bioaccumulative and subject to a food chain analysis.

10/15/03



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Preliminary Assessment of Patrick Bayou Sediment Quality Data

Chemical	Screening Level (mg/kg, Freshwater)	Screening Level (mg/kg, Marine)	Exceeds screening?	Bioaccumulative
1,3-dichlorobenzene	NSL	NSL	NA	No
1,4-dichlorobenzene	NSL	NSL	NA	No
2,6-dinitrotoluene	NSL	NSL	NA	No
2-methylnaphthalene	NSL	0.07	Yes	No
3,3'-dichlorobenzidine	NSL	NSL	NA	No
Acenaphthene	NSL	NSL	NA	No
Acenaphthylene	NSL	NSL	NA	No
Anthracene	0.0572	0.0853	Yes	No
Arsenic	5.9	8.2	Yes	No
Barium	NSL	NSL	NA	No
Benzene	NSL	NSL	NA	No
Benzidine	NSL	NSL	NA	No
Benzo(a)anthracene	0.0317	0.261	Yes	No
Benzo(a)pyrene	0.0319	0.43	Yes	No
Benzo(b)fluoranthene	NSL	NSL	NA	No
Benzo(g,h,i)perylene	NSL	NSL	NA	No
Benzo(k)fluoranthene	NSL	NSL	NA	No
Bis (2-Chloroethoxy) methane	NSL	NSL	NA	No
Bis(2-chloroethyl) ether	NSL	NSL	NA	No
Bis(2-chloroisopropyl) ether	NSL	NSL	NA	No
Cadmium	0.596	1.2	Yes?	Yes
Chlorobenzene	NSL	NSL	NA	No
Chromium	37.3	81	Yes	No
Chrysene	0.0571	0.384	Yes	No
Copper	35.7	34	Yes	Yes
DDE	0.00142	0.00207	Yes	Yes
DDT	0.00119	0.00119	Yes	Yes
Dibenzo(a,h)anthracene	0.033	0.0634	Yes	No
Dioxins	NSL	NSL	NA	Yes
Ethylbenzene	NSL	NSL	NA	No
Fluoranthene	0.111	0.6	Yes	No
Fluorene	0.111	0.6	Yes	No
Furans	NSL	NSL	NA	Yes
Heptachlor epoxide	0.0006	NSL	Yes	Yes
Hexachlorobenzene	NSL	NSL	NA	Yes
Hexachlorobutadiene	NSL	NSL	NA	No
Hexachloroethane	NSL	NSL	NA	No
Iron	20000	NSL	Yes	No
Lead	35	46.7	Yes	No
Mercury	0.174	0.15	Yes	Yes
Napthalene	0.176	0.16	Yes	No
Nickel	18	20.9	Yes	Yes
PCBs	0.0341	0.0227	Yes	Yes
Phenanthrene	0.0419	0.24	Yes	No
Pyrene	0.053	0.665	Yes	No
Selenium	NSL	NSL	NA	Yes
Silver	1	1	No	No
Zinc	123	150	Yes	Yes

NSL: No screening level
NA: Not applicable